

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Previously Presented) An isolated and purified nucleic acid molecule that encodes a mammalian histamine H4 receptor protein, said nucleic acid molecule comprising a member selected from the group consisting of:
  - (a) a nucleic acid molecule encoding a protein comprising amino acids 1 to 389 of SEQ ID NO:10;
  - (b) a nucleic acid molecule which is complementary to the polynucleotide of (a);
  - (c) a nucleic acid molecule comprising at least 15 sequential bases of the polynucleotide of (a) or (b); and
  - (d) a nucleic acid molecule that hybridizes under stringent conditions to the polynucleotide molecule of (a) .
2. (Original) The nucleic acid molecule of claim 1 wherein the polynucleotide is RNA.
3. (Original) The nucleic acid molecule of claim 1 wherein the polynucleotide is DNA.
4. (Previously Presented) The isolated and purified nucleic acid molecule of claim 1, having a nucleotide sequence of SEQ ID NO:7.
5. (Original) The isolated and purified nucleic acid molecule of claim 1, wherein said nucleic acid molecule is genomic DNA.
6. (Previously Presented) An expression vector for expression of a mammalian histamine H4 receptor protein in a recombinant host, wherein said vector contains a nucleic acid sequence encoding a mammalian histamine H4 receptor protein having an amino acid sequence of SEQ ID NO:10.

7. (Previously Presented) The expression vector of claim 6, wherein the expression vector contains a nucleic acid molecule encoding a mammalian histamine H4 receptor protein having a nucleotide sequence of SEQ ID NO:7.

8. (Previously Presented) The expression vector of claim 6, wherein the expression vector contains genomic DNA encoding said mammalian histamine H4 receptor protein.

9. (Previously Presented) A recombinant host cell containing a recombinantly cloned nucleic acid molecule encoding a mammalian histamine H4 receptor protein having an amino acid sequence of SEQ ID NO:10.

10. (Previously Presented) The recombinant host cell of claim 9, wherein said nucleic acid molecule has a nucleotide sequence of SEQ ID NO:7.

11. (Original) The recombinant host cell of claim 9, wherein said cloned nucleic acid molecule is genomic DNA.

12. (Previously Presented) A substantially pure histamine H4 receptor encoded by the nucleic acid molecule of claim 1.

13. (Previously Presented) The protein according to claim 12, having an amino acid sequence of SEQ ID NO:10.

14-15. (Canceled)

16. (Original) A process for expression of mammalian histamine H4 receptor protein in a recombinant host cell, comprising:

- (a) transferring the expression vector of Claim 6 into suitable host cells; and
- (b) culturing the host cells of step (a) under conditions which allow expression of the mammalian histamine H4 receptor protein from the expression vector.

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**PATENT**

17-25. (Canceled)